

# Plazi: Towards Linked Open Taxonomic Data in Switzerland

**Donat Agosti**

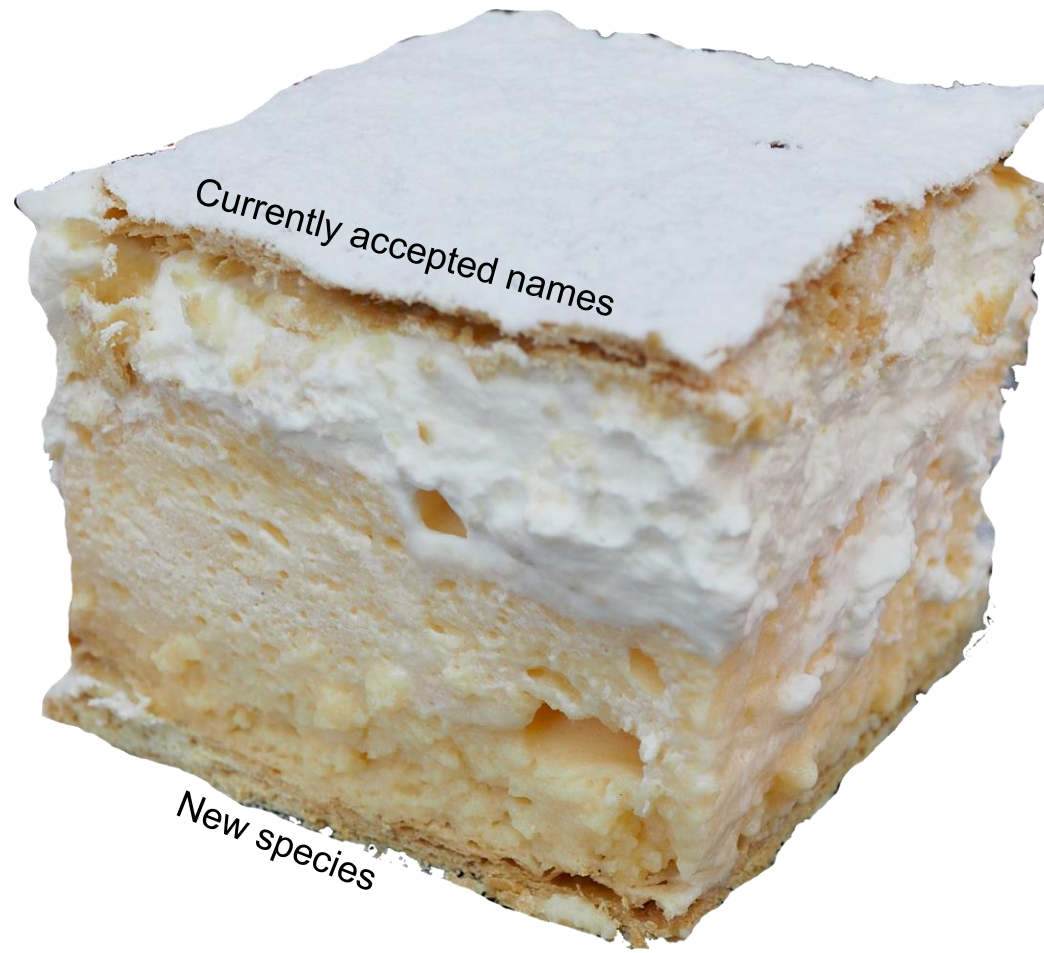
Plazi

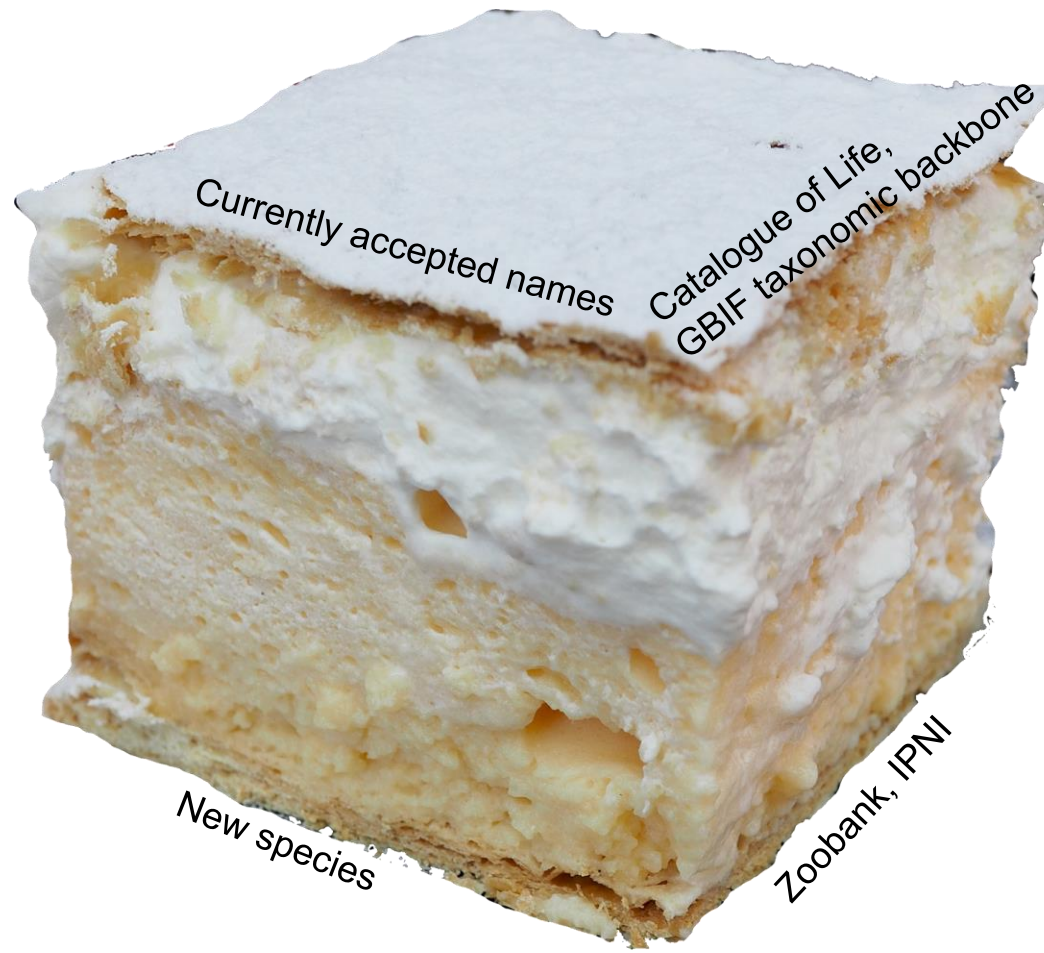
November 10, 2017 / SSS-Day Fribourg

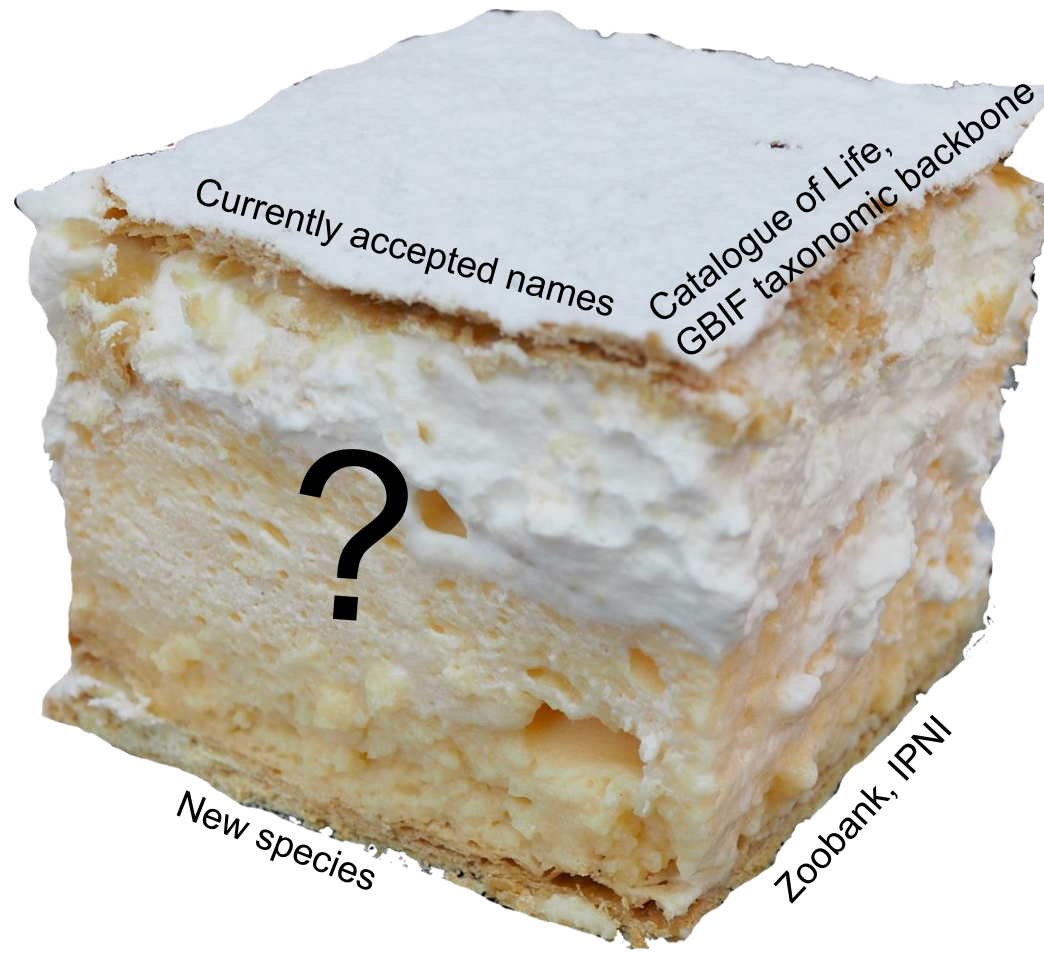


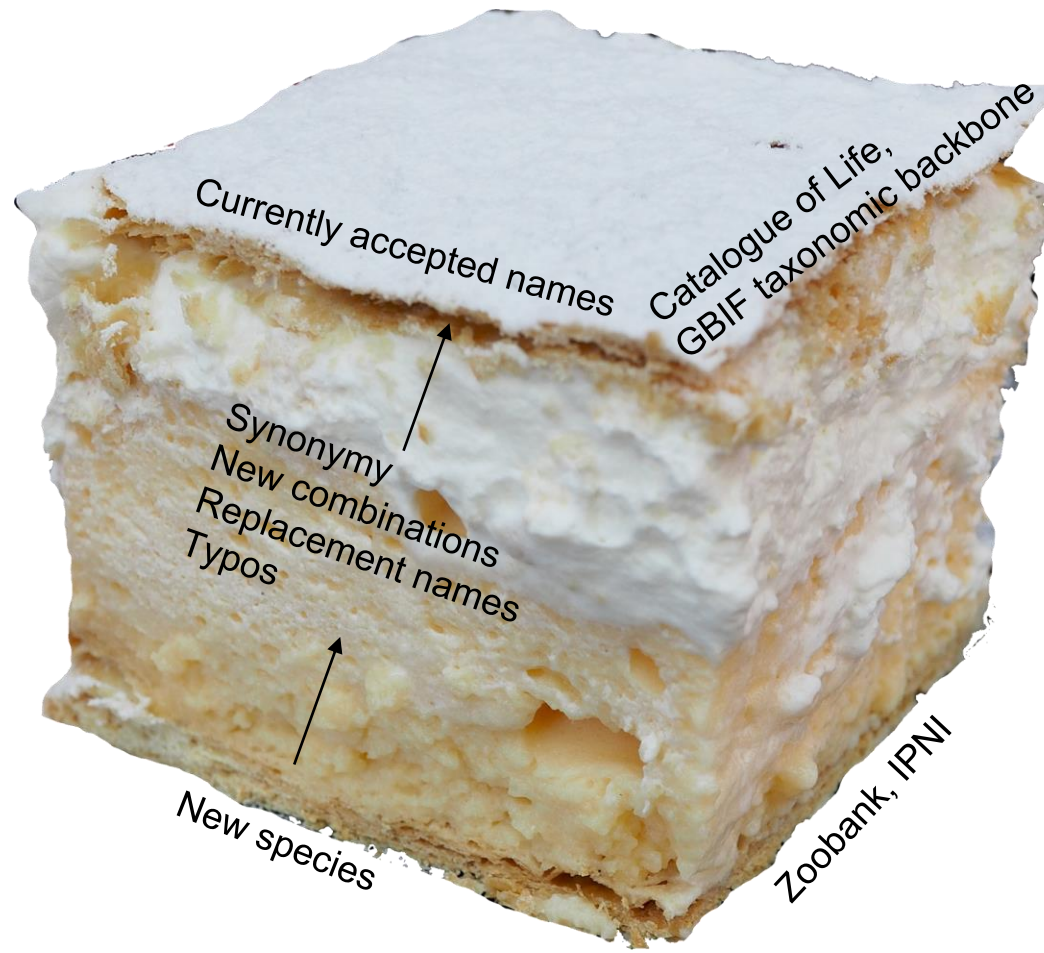


*New species*











What is the currently accepted name of *Aus bus*?





What is the currently accepted name of x?

- Get the name: catalogue
- Understand the history and reasoning of a name: Treatments

## Treatment

*Thabena* Stål, 1866

*Thabena* Stål, 1866a: 208 (type species: *Issus retractus* Walker, 1857, by subsequent designation in Stål 1866b: 393).

*Cibyra* Stål, 1861: 209 (preoccupied, type species: *Issus testudinarius* Stål, 1854 (= *Issus spectans* Walker, 1858), by original designation).

*Gelastyra* Kirkaldy, 1904: 280, new name for *Cibyra* Stål, 1861, synonymised by Gnezdilov 2009: 77.  
*Borbonissus* Bonfils, Attié & Reynaud, 2001: 217 (type species: *Borbonissus brunnifrons* Bonfils, Attié & Reynaud, 2001, by original designation), synonymised by Gnezdilov 2009: 77.

### Diagnosis

The genus can be recognized by the following characters: medium to large-sized; frons wide with median carina crossed by transverse carina inferior to its upper margin; hind wing trilobed, veins reticulate, anal lobe rudimentary; first metatarsomere with 8–21 intermediate spines; suspensorium small, situated at base of aedeagus; ventral margin of phallobase smooth at base, aedeagus with a pair of ventral hooks.



Catalogue: Implicit in the taxonomic literature or explicit as compilation

## Treatment

*Thabena* Stål, 1866 **Currently accepted name**

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cites previous name usage

deprecates name (e.g. synonymy)

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## Get facts about a name

**Acanella robusta Thomson & Henderson, 1906**

France, Scott C., 2017, A taxonomic review of the genus *Acanella* (Cnidaria: Octocorallia: Isididae) in the North Atlantic Ocean, with descriptions of two new species, *Zootaxa* 4323 (3), pp. 359-390: 377

publication ID <https://doi.org/10.11646/zootaxa.4323.3.2>

publication LSID [lsid:zoobank.org/pub/282Cfa84-60F8-464A-Acc4-8fcbbc69F6A9](https://zoobank.org/pub/282Cfa84-60F8-464A-Acc4-8fcbbc69F6A9)

persistent identifier <http://treatment.plazi.org/id/0390704E380E-C23C-FF1D-6A477028FD2C>

treatment provided by Plazi (2017-09-22 07:24:34)

scientific name *Acanella robusta* Thomson & Henderson, 1906

status

References

Figures

**XML**

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**RDF**

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**Darwin Core Archie**

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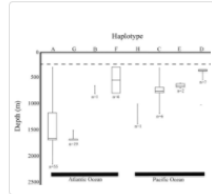


FIGURE 3. Box and whisker plot depicting the depth range of the 8 different *Acanella* Haplotypes (A-H) among the 97 samples sequenced for this study; where n = 1 the

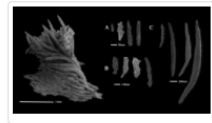


FIGURE 11. SEM images of *Acanella robusta* (Haplotype H, PNG 1161). A) Tentacle sclerites. B) Coenenchyme sclerites. C) Polyp body sclerites.

**References**

Kükenthal, W. (1919) Gorgonaria. Wissenschaftliche Ergebnisse der Deutsche dem Dampfer Valdivia 1898 - 1899, 13, 1 - 946.

Thomson, J. A. & Henderson, W. D. (1906) An Account of the Alcyonarians collected by the Royal Indian marine survey ship Investigator in the Indian Ocean. I. The Alcyonarians of the deep sea. The Indian museum, Calcutta, xvi + 132 pp.



Zenodeo: <http://zenodeo.punkish.org/examples>

zenodeo [docs](#) [terms of service](#) [install](#) [examples](#) [about](#)

## Examples

### Web page with images

Let's say you want to make a web page that displays images for all records with the word 'pelagic' in their text. Below is a script that will do the work

Note: change the value below for a different query

query

```
var url = "v1/records?communities-biosyslit&type-image&summary=false&images=true&q=tineidae&size=30";

var x = new XMLHttpRequest();

x.onload = function(event) {
  if (x.readyState === 4) {
    if (x.status === 200) {
      var res = JSON.parse(x.responseText);
      var html = "";
      for (var record in res) {
        html += "<figure>";
        var images = res[record];
        var j = images.length;
        for (var i = 0; i < j; i++) {
          html += "<img src='${images[i]}'>";
        }

        html += "<figcaption>
          rec ID: <a href='https://zenodo.org/record/${record.split('/')}.pop()' target='_blank'>
            ${record.split('/')}.pop()</a>
          </figcaption>
        </figure>";
      }
      var imageDiv = document.getElementById("images");
      imageDiv.innerHTML = html;

      event.preventDefault();
      event.stopPropagation();
      return false;
    }
  }
};

x.onerror = function(e) {
  console.error(x.statusText);
};

x.open("GET", url, true);
x.setRequestHeader("Content-Type", "application/json;charset=UTF-8");
x.send();
```

RUN CODE





## Resource Description Framework (RDF) version of a treatment

Treatment	RDF Code
Thabena Stål, 1866	<pre>&lt;rdf:RDF xmlns:dwc="http://rs.tdwg.org/dwc/terms/" xmlns:cnt="http://www.w3.org/2011/content#" xmlns:bibo="http://purl.org/ontology/bibo/" xmlns:sdo="http://schema.org/" xmlns:trt="http://plazi.org/vocab/treatment#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#" xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#" xmlns:xsd="http://www.w3.org/2001/XMLSchema#" xmlns:fabio="http://purl.org/spar/fabio/" xmlns:cito="http://purl.org/spar/cito/" xmlns:sdd="http://tdwg.org/sdd#" xmlns:dc="http://purl.org/dc/elements/1.1/" xmlns:mods="http://www.loc.gov/mods/v3" xmlns:dwcFP="http://filteredpush.org/ontologies/oa/dwcFP#"&gt;   &lt;rdf:Description rdf:about="http://treatment.plazi.org/id/03BA3B24FFC4F9C7E871B1DFA7CF881"&gt;</pre>
Thabena Stål, 1866a: 208 (type species: <i>Issus</i> 1866b: 393).	<pre>    &lt;rdf:type rdf:resource="http://plazi.org/vocab/treatment#Treatment"/&gt;     &lt;trt:augmentsTaxonConcept rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Thabena_Stal_1866"/&gt;     &lt;trt:publishedIn rdf:resource="http://dx.doi.org/10.5852/ejt.2016.181"/&gt;</pre>
Cibyra Stål, 1861: 209 (preoccupied, type sp. 1858), by original designation).	<pre>    &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Thabena_Stal_1866"/&gt;     &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Issus_retractus_Walker_1858"/&gt;</pre>
Gelastyra Kirkaldy, 1904: 280, new name for <i>Borbonissus</i> Bonfils, Attié & Reynaud, 2001 (preoccupied, type sp. 1858), by original designation), synonymized with <i>Thabena</i> Stål, 1866, by original designation).	<pre>    &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Cibyra_Stal_1861"/&gt;     &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Issus_testudinarius_Stal_1858"/&gt;</pre>
Diagnosis The genus can be recognized by the following characters: carina crossed by transverse carina inferior to its upper margin; hind wing trilobed, veins reticulate, anal lobe rudimentary; first metatarsomere with 8–21 intermediate spines; suspensorium small, situated at base of aedeagus; ventral margin of phallobase smooth at base, aedeagus with a pair of ventral hooks.	<pre>    &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Gelastyra_Kirkaldy_1904"/&gt;     &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Cibyra_Stal_1861"/&gt;     &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Borbonissus_Bonfils_2001"/&gt;     &lt;trt:deprecates rdf:resource="http://taxon-concept.plazi.org/id/Animalia/Borbonissus_brunnifrons_Bonfils_2001"/&gt;   &lt;/rdf:Description&gt;</pre>

1 treatment includes many facts



## Treatment data in the government Schweiz

<https://test.lindas-data.ch/sparql-ui/>

- Facts about names from 150,000 treatments in the Swiss government triple store
- Searchable through the SPARQL-endpoint
- Bases to link many datasets about or including species

☰

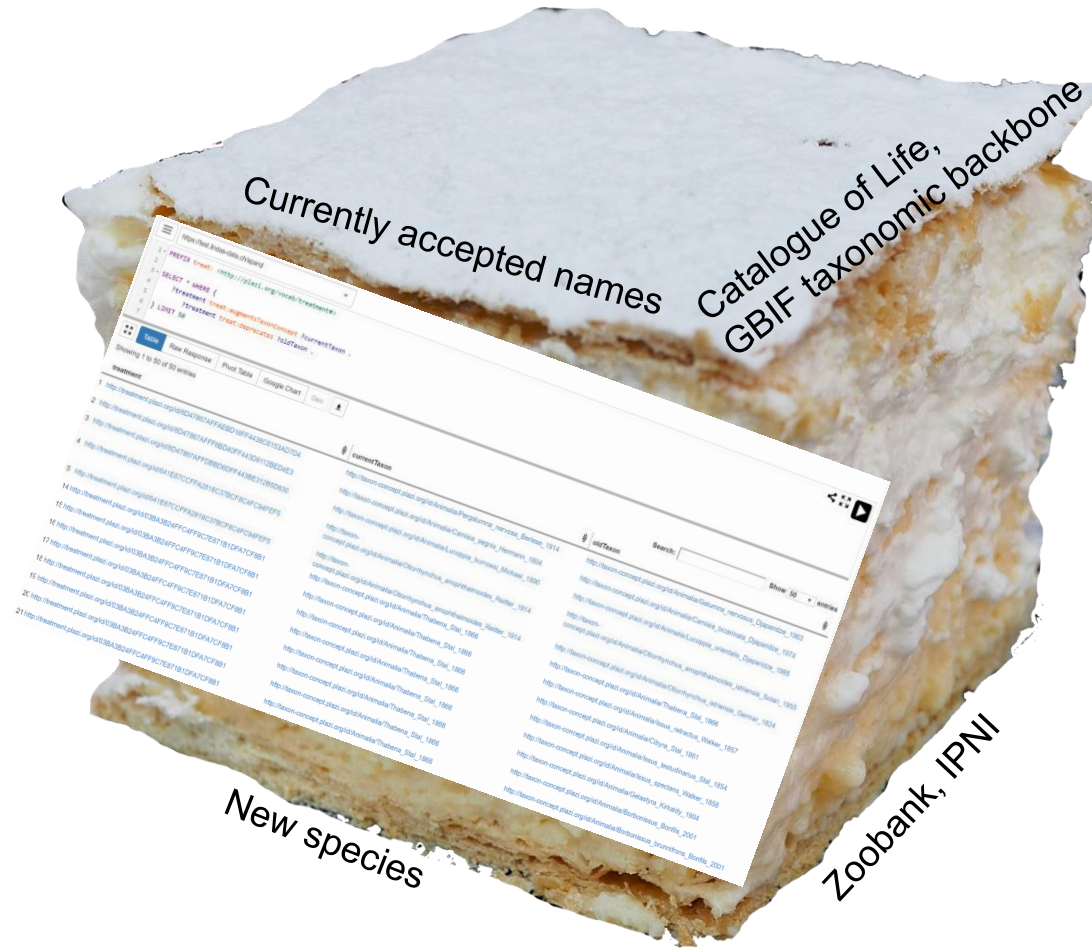
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1 PREFIX treat: <http://plazi.org/vocab/treatment#>
2
3 SELECT * WHERE {
4   ?treatment treat:augmentsTaxonConcept ?currentTaxon .
5   ?treatment treat:deprecates ?oldTaxon .
6 } LIMIT 50
7
            
```

☰
Table
Raw Response
Pivot Table
Google Chart
Geo
⬇

Search: 
 Show 50 entries

treatment	currentTaxon	oldTaxon
1 <a href="http://treatment.plazi.org/id/8D47867AFFAEBD18FF4438C6153AD7D4">http://treatment.plazi.org/id/8D47867AFFAEBD18FF4438C6153AD7D4</a>	<a href="http://taxon-concept.plazi.org/id/Animalia/Pergalumna_nervosa_Berlese_1914">http://taxon-concept.plazi.org/id/Animalia/Pergalumna_nervosa_Berlese_1914</a>	<a href="http://taxon-concept.plazi.org/id/Animalia/Galumna_nervosus_Djaparidze_1963">http://taxon-concept.plazi.org/id/Animalia/Galumna_nervosus_Djaparidze_1963</a>
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21 <a href="http://treatment.plazi.org/id/03BA3B24FFC4FF9C7E871B1DFA7CF8B1">http://treatment.plazi.org/id/03BA3B24FFC4FF9C7E871B1DFA7CF8B1</a>	<a href="http://taxon-concept.plazi.org/id/Animalia/Thabena_Stal_1866">http://taxon-concept.plazi.org/id/Animalia/Thabena_Stal_1866</a>	<a href="http://taxon-concept.plazi.org/id/Animalia/Borbonissus_brunnifrons_Bonfils_2001">http://taxon-concept.plazi.org/id/Animalia/Borbonissus_brunnifrons_Bonfils_2001</a>



Currently accepted names

Catalogue of Life,  
GBIF taxonomic backbone

New species

Zoobank, IPNI



## Conclusion

Scientific names allow linking all facts about taxa

Scientific names play a decisive role in providing access to data collected in DiSSCO

Scientific names are the gateway to facts about taxa

Switzerland has a unique chance to provide those facts

## The future

Let's convert all taxonomic literature about species in Switzerland into facts and in the longer term contribute to link all names



**Thank you!**

**Donat Agosti**  
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